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To:	Nursing Homes	NH 09
	Hospitals	HOSP 05
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	Bureau of Quality assurance	

### **Prevention of Food-Borne Illness Related to the Increased Incidence of *Salmonella Enteritidis***

The Wisconsin Bureau of Public Health informed the Bureau of Quality Assurance of a substantial increase in the number of persons in Wisconsin who had diarrheal illnesses during 1997 due to the bacterium *Salmonella Enteritidis* compared to the previous three years. During 1997, there were 395 reported cases of laboratory-confirmed *Salmonella Enteritidis* infections. This was roughly two and a half times the average annual number of cases during the previous three years. There was an even greater increase in the occurrence of *Salmonella Enteritidis* among elderly persons; the age-specific incidence rate for persons 65 and older during 1997 was 9.1 cases per 100,000 population, which represents a three-fold increase from the average of 2.9 cases per 100,000 population per year during the years 1994-96. In addition, there were eight outbreaks with a common exposure such as a restaurant or party. One of these outbreaks occurred in a nursing home and resulted in ten residents having a diarrheal illness due to *Salmonella Enteritidis* with one of the residents being hospitalized.

Epidemiologic investigations of the sporadic and outbreak-associated cases suggested that contaminated eggs were primarily responsible for the increase in reported infections. Eggs have been linked to infections due to *Salmonella Enteritidis* in other parts of the country as well. The Wisconsin Department of Agriculture, Trade and Consumer Protection conducted a trace-back of eggs that were associated with two outbreaks and identified chicken flocks living in environments contaminated with *Salmonella Enteritidis*. Eggs from these flocks are no longer being sold as shell eggs in the retail market. However, the source of eggs could not be identified for all cases of *Salmonella Enteritidis* infection, which occurred during 1997, because the small size of some clusters and the sporadic cases did not allow identification of a particular source of eggs even though there was evidence that the infections were due to eggs. Therefore, it cannot be assumed that all Wisconsin flocks with *Salmonella Enteritidis* contamination have been identified.

Food borne illness is a serious health issue for all persons, but persons who are elderly, have weakened immune systems, or suffer from chronic disease such as diabetes are at a higher risk of severe illness due to *Salmonella Enteritidis*. In fact, during the years 1985-1991, the case-fatality rate in hospital- and

nursing home-associated outbreaks was 3.0%, 70 times the case-fatality rate in other settings (0.043%). The symptoms of *Salmonella Enteritidis* include diarrhea, fever, nausea, vomiting, abdominal pain, and headaches. These symptoms can vary in both severity and onset.

Food service operations in health care and community settings must guard against outbreaks of food borne illness. The federal Centers for Disease Control and Prevention and the state Bureau of Public Health recommend the following measures to protect residents, clients and patients living in health care and community settings:

- Under no circumstances should raw eggs be served.
- In institutions with high risk populations, pasteurized egg products should be substituted for raw eggs used in recipes, where possible.
- Separate blenders should be used for pureeing other foods if a blender is used for scrambling eggs. Several outbreaks have been traced to pureed food prepared in the same blender used to scramble eggs.
- Particular attention needs to be given to washing and sanitizing any kitchen equipment that comes in contact with the contents of shell eggs.

If shell eggs are used in health care and community settings, the Bureau of Quality Assurance and the Bureau of Public Health are advising health care and community-based providers to evaluate their food safety practices, including how eggs are purchased and used in their facilities. In particular, we recommend the following:

- Eggs and egg-containing foods must be refrigerated at temperatures of 40° F or below or kept hot at 140°F or hotter.
- Never accept room temperature, cracked, or broken raw shell eggs.
- Thoroughly cook all eggs so that the yolk and white are solid.
- Do not accept or use eggs that have passed their “expiration,” “sell by” or “use by date.”
- Review procedures to prevent cross-contamination between raw eggs or foods containing raw eggs; including with hands, surfaces, utensils and other foods. For example, hands should be thoroughly washed with warm, soapy water and dried with single service disposable towels before and after egg handling. Utensils, equipment, and work areas should be washed and sanitized before and after coming in contact with raw eggs.

Eggs are not the only source of *Salmonella Enteritidis*. Other foods implicated in *Salmonella Enteritidis* outbreaks include meats and meat products, poultry, and combination foods, (e.g., salads) that contain the previously mentioned food products. Food handlers and others who are infected with the bacterium can also spread *Salmonella Enteritidis*. Food service employees with a diarrheal illness should be evaluated medically and should not work while they are symptomatic. If there are questions about specific cases of diarrheal illness, contact your local health department.

Mishandling and improper cooking and storage of foods are the most common contributing factors to food borne outbreaks of *Salmonella Enteritidis* and other food borne illnesses. Food service employees and others need to be educated about effective food safety, including purchasing, storing and handling foods properly, cooking foods to proper temperatures, using effective hand washing practices, keeping food contact surfaces clean and sanitized, and preventing cross-contamination.

Attached is a memorandum from the federal Centers for Disease Control and Prevention that answers questions about *Salmonella Enteritidis* and eggs. If you have any questions, please call Billie March, Dietary Services Consultant, Bureau of Quality Assurance at (608) 266-7188 or John Archer, Epidemiologist, Bureau of Public Health at (608) 267-9009.